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Introduction

I- Trade Balance Degradation

This section presents some major agricultural trade performance criteria of Egypt, which includes exports flow with special focus upon EU markets and the impacts of the 25th of January revolution.

i. Egyptian Exports to the World Market

The profile of Egyptian Exports over the period (2007-2011) shown by (Table 1) provided some important indicators. Although the total exports increased significantly over that period (**Table 2**), the agricultural exports decreased from 2887 million US$ in 2010 to 2774 million US$ in 2011, associated with a decrease in its share in total exports from 11% to 9%, respectively. It seems that the onset of 25th of January 2011 revolution had negative impact on agricultural exports. The decrease in Egyptian exports of all categories, either agricultural or non-agricultural, was drastic between 2011 and 2012 as shown by (**Table 3**). The coverage of exports earnings to the imports bill (either total or agricultural) also decreased over the period 2011-2012, (**Table 3**). This trend which implied more drainage of the foreign currency, while the inflow of these currencies decreased, due to shrinkage of tourism flow and shrinkage in the monetary reserve.

ii. Egyptian Exports to EU Market

The EU is the world's biggest market for imports of agricultural products from Egypt. In 2011, EU's imports of Egyptian agricultural, processed agricultural and fish and fishery products to the EU totalized 9404 million US$ in value, 15% more than in 2010 (**Table 4)**. More than 80% of these products benefit from duty-free and quota-free access to the EU market. The main agricultural products exported by Egypt to the EU are fresh table grapes, potatoes, sweet oranges, beans, onions and strawberries, (**IMF, 2013**)

If other exported products to EU markets of agricultural origin were accounted, the role of the European market would be highly vital to Egyptian market. Surprisingly, Egypt associated its currency value with US$ rather than Euros. While the Average annual growth rate of the total imports and exports of Egypt with EU was 7.8%, the Egyptian agricultural exports to EU market was 4.3%, i.e. much less than the comparable rate of agricultural imports from EU market, which was 21.4% within the period 2007-2011. It seems that the non-tariff barriers have much effect on the competitiveness of Egyptian agricultural products in EU-Market (**Bassiony, Hala, 2012**) The study applied the gravity equation model, as a common approach to assess the impact of domestic and foreign policies on Egyptian trade patterns using cross-section data in year 2010. The results showed that the impacts of non-tariff barriers were significant with a positive sign. This indicated that NTMs have strong trade impact on Egyptian agriculture exports of vegetables and certain roots, tubers, fruits (including fresh orange), nuts; peeled citrus, melons and cotton. The positive sign may indicate to revealed competitiveness (RC) of these products in EU market. Therefore, the Egyptian exporters should satisfy EU requirements of non-tariff measures to raise their share in the EU markets. This paper concerned five types of measures. Sanitary measures, technical barriers to trade, license, quotas, prohibitions and finance measures applied in European Union countries. Moreover, it concerned the export related measures applied by Egyptian government on exports

All agricultural products sold in the EU, either imported or locally produced, must comply with the EU requirements in terms of food safety. This involves an integrated approach (from farm to fork) covering food and feed safety, animal health and welfare, as well as plant health. For such reasons, in the case of food products of animal origin, only establishments that comply with these requirements are approved for exporting to the EU (**Delegation of the European Union to Egypt, 2013**)

iii. Trade Agreements

The total number of international agreements between Egypt and the rest of the world are 400. Among them 100 with European countries, 33 with African Countries, 85 with Asian Countries, 70 with north American Countries, 5 with south American countries, 2 with Australia. Numerous of these agreements related directly or indirectly to trade. The study extracted the following set of agreements that are purely for trade promotion. These are (1) COMESA agreement, (2) Egypt - EU Partnership Agreement, (3) EU/EGYPT Action plan, (4) Qualified Industrial Zone [QIZ], (5) Free and Preferential Trade Agreements Between Egypt and the Arab Countries, (6) International Agreements [International Organizations - Asia - Europe, (7) AGADIR, (8) TIFA, (9) PAFTA, (10) MEFTA, (11) Global System of Trade Preferences (GSTP), and (12) Egypt-Turkey. In addition, there are some other important agreements, that need to be effectively implemented.

(1) Egypt-(UEMOA) Free Trade Agreement: for the Establishment of a Free Trade Zone between Egypt and West African Economic and Monetary Union (UEMOA) the UEMOA is composed of eight West

African member countries (Benin, Burkina Faso, Cote D'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo),

(2). Egypt- CEMAC Countries agreement for Regional Free Trade Area Negotiation, the CEMAC group are Cameroon, Central African Republic, Chad, Congo-Brazzaville, Gabon and Equatorial Guinea in Central Africa,

(3) Egypt- Nigeria Bilateral Free Trade Area with the goal of obtaining an economic preference ,as Nigeria is the economic powerhouse within the Economic Community of West African States (ECOWAS) group,

(4) Egypt-Tanzania Bilateral Free Trade Area to compensate the drawbacks stemming from Tanzania's withdrawal from COMESA,

(5) Egypt-Mercosur Preferential Trade Agreement which includes the Southern Common Market, regional trade agreement (RTA) between Argentina, Brazil, Paraguay and Uruguay founded in 1991 by the Treaty of Asuncion, which was later amended and updated by the 1994,

(6) Egypt- India Preferential Trade Agreements,

(7) Egypt-Sri Lanka free trade agreements,

(8) Egypt-Russia Free Trade Agreements

II- Inequalities and Rural Poverty

To assess the poverty level and performance indicators, the study has utilized the data of available successive household budget surveys, conducted by the central Agency of Statistics and Public Mobilization (CAPMAS) of Egypt since 1975 till 2009. Such surveys allowed estimating of some major indicators of the standard of living in rural and urban regions of the country, (**Table 5**). From that table, while the food price level rose annually at 9.4% in rural regions between 2000 and 2005, it rose annually at 2.1% in urban region. This shows how government was much biased for urban at the expenses of rural with respect to food price subsidy policy and market control functions.

Table 5, also, showed that although the parity current income (the ratio of rural annual per capita income to urban income)1 rose from 55% in the year 2000 to 84% in the year 2005. At real level (constant price of 2000), such ratio decreased to only 39% in 2005. This was due to a fast decrease in the real annual rural per capita income at 9% while it decreased only by 2% in urban areas. Consequently, the standard of living in rural regions was much less than urban region and has gotten worsen over time due to prices inflation, which reflected less economic growth and less social judgment policy in rural than urban.

i. How Large is the inequalities in Agricultural resources distribution?

In general, the Egyptian farming system has two major features. It is so intensive in production and too fragmented in farm size pattern. The first Egyptian law of land reform was released in September 1953. It limited the land holding by 84 hectares (200 Feddan2) for a family (parents and children less than 21 years old) and by 41 hectares (100 Feddan) for a single person. The second law was in 1969, which reallocated the land holding size to be one-half of the first law limits, i.e. 4o hectares per family holder and 20 hectares per single holder. Between the two law Eras there were other presidential decrees package named nationalization decrees in 1961 that put all companies and firms under the state management including the agricultural sector. The Tenant farmer made many benefits from the land reform law, as it put numerous barriers which protected them from the land owners when the later wanted to get back his (her) land from the tenant. In addition the law fixed the land rent at 7 times the land property tax. Thereof, the tenants used to inherit the rented land by dividing it between their sons and daughters, which expanded the

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[1] The total annual expenditure was used instead of annual income, as the household budget surveys were not able to measure precisely the income.

[2] 1-Feddan = 4200m^2

land fragmentation towards smaller; and smaller farm size. However, the land market was completely liberalized in 1997 when the land reform law was cancelled, which had dramatic impacts on the land holding pattern.

Table 6 and **Table 7**, preset the relative frequency distribution of the agricultural land holding in Egypt over the period before the July 1952's Egyptian Revolution till the year 2000, which covered all structural changes in the land holding policy in Egypt. Unfortunately, no recent data on farm structure is available beyond 2000.

Estimates of GINI Coefficient and drawing Lorenz Curve are two parameters for assessment of the equality and Justice of wealth and resources in an economy. GINI coefficient provides a useful language to show the principal factors that characterize equality and inequality for nation states and communities inside states. When focusing on social equity, the GINI coefficient provides a useful guide (**Litchfield A, 1999**). As percentage, GINI coefficient ranges between Zero, which means full equality of the probability distribution of the concerned variable and 100%, i.e. full inequality (**Lui, Hon-kwong, 1997**). Therefore, GINI coefficient was estimated by this study for the frequency distribution of farm holdings of agricultural land in Egypt over the period (before 1992 till 2000)

The less value of estimated GINI coefficient of land holding distribution in **Table 6** and **Table 7**, the more is the fragmentation in the land holding size. It was about 61.1% before the first land reform law (during the royal era of Egypt). After the first land holding law the GINI coefficient decreased to 49.4%, i.e. had moved towards more equality. After the nationalization decrees in 19961, the GINI coefficient had decreased more to be 43.3%, due to the absence of economic incentives to establish a large farm and due to the stagnation in the land market. The absence of incentives was due to several reasons. Among those reasons is that the land reform law prevented the owners from taken the land from the land tenants, even if they were not paying regularly the rent. The rent was fixed at too low rate. It was only 7 times the land tax, which was in itself very low. The GINI coefficient had decreased more to 40.3% by the second land reform law in 1969. In the year 2000, i.e. three years after the liberalization of the land market by cancellation of the land ownership limits and freeing the land rent to be determined by the market mechanism, the GINI coefficient had slightly moved up to be around 45%, i.e. towards less equity. Therefore, the land holding pattern has being moved to much higher centralization of larger farm size. **Figure 1** shows the changes in the curvature of Lorenz curve of the agricultural land holdings distribution over the concerned periods.

Therefore, small farm size still represents the majority of agricultural land holding in Egypt. Small farm by Egyptian measures is that farm with less than five feddans (less than 2 Hectares), (**Soliman, et al, 2012**). **Table 8,** shows that 91.68% of holdings are of a size less than 5 Feddans and hold 49.61% of Land, while less than 10% of owners hold the rest one-half of agricultural land area. Even though, the small farmers hold the majority of livestock in Egypt, i.e. 71.77% of cattle and 87.16% of dairy buffaloes. Livestock is considered as a sort of capital intensification on small farm to generate a daily income for the family (**Soliman, et al, 2012**).

ii. Does Agricultural Income Alleviate Small Farm Household's Poverty?

Table 9 presents the household's income structure in both rural and urban regions in Egypt. While agricultural activities were the main source of income in rural area, i.e. around 62%, such activities were only 16% in urban regions (some urban citizens hold agricultural assets in rural areas). While income from wages and salaries was almost one third of urban household's income it was only 18% in rural regions. The rest of income sources were derived from residential building rent, commercial projects and financial activities. Such sources represent about one-half of urban household's income and only one-fifth of the household in rural regions. In words, till the end of the last century, the opportunities for non-agricultural sources of income in rural areas were much less than urban. However, it seems that the agricultural share has drastically dimensioned during the first decade of the current century.

As shown from (**Table 8**) the small farmers represent the bulk of agricultural landholders in Egypt. Thereof, measuring poverty should focus on such category as the bulk of the agricultural community in Egypt. *Accordingly, a recent farm sample survey composed of 120 small farm holdings was conducted under the supervision of the author from 4 villages in Sharkia Governorate, where the University of Zagazig*

is located. The purpose of such survey was to investigate the small farmer's economics for the agricultural year 2010/2011. Table 9Table 10**,** presents the annual average of the share of agricultural and non-agricultural income in the small farm earnings. It showed that while, 52% of the total annual income of the farm household was generated by agricultural activities 48% were earned from non-agricultural activities, (**Table 9)**. The apparent conclusion implies that the share of agricultural income decreased in 2010/2011, in comparison with the results of (Table 10**)** of the year 1999/2000, i.e. from 62% to 52%. It seems that the small farmers due to small available land endowments could not reach higher agricultural income. It is quite clear from (**Table 9**) that whereas field crops sale provided only 18%, livestock provided 33% and poultry provided 1% of the annual household income. Thereof, livestock activities rather than crops have become the major agricultural income source for the majority of farm households in Egypt. Among non-agricultural income sources the salaries from non-agricultural jobs represented the bulk of such sources, i.e. 40% of the small farm household annual income, followed by the share of remittances from working abroad by 5% and finally, Working for other farmers by 3%.

Accordingly, the increase in non-agricultural population in rural areas is going to be an abundant burden on the national economy in Egypt over time. In other words, rural community would be residence regions for employees rather than being mainly residence for farmers and agricultural workers as it was fifty years ago.

From the small farms survey, conducted by the author, the average household size was 5.2 persons per farm. Considering the poverty line assigned by the World Bank of US$ 2/Capita/ Day **(World Bank, 2008**), the author assessed to how extend the annual earnings of the small farm's household was sufficient to pass the poverty line level. Adding up all income sources from agricultural activities earned by the small farm's household, including working as labor on others' farms, as shown in (**Table 10)** the daily per capita income was US$1.2, i.e. the poverty gap was 40% between the minimum income level of US$ 2/Capita/ Day and the actual agricultural earnings. In addition, the farm income provided US$1.03/Capita/Year, which could hardly pass the absolute poverty line ($1/ Capita/day, (**World Bank, 2008**). However, the average daily per capita household's income (agricultural and non-agricultural) would be US$2.2, which was slightly capable to pass the poverty threshold (US$ 2/Capita/ Day), i.e. only 10% above the poverty line.

iii. Is Poverty in Rural Egypt Less in Depth than in Urban?

Where the per capita gross national product (GNP) expresses a national average of wealth, it does not provide an insight into the levels of actual wealth distribution to individuals within the state. Accordingly, GINI coefficient provides a useful guide focusing on social equity, that show the principal factors characterizing equality and inequality for communities inside states. GINI coefficients can be used usefully, as one means to assess the impacts of the economic and social policies upon trends towards civil violence and rural to urban migration rates, (**Litchfield A, 1999**). Therefrom, In Egypt, this study estimated GINI Coefficients from the Household expenditure surveys that have been conducting in Egypt since 1974/1975 till 2009/2010, by "**CAPMAS**". The estimates were for urban and rural regions.

The poverty rates, as shown in (**Table 11**), indicate to the concentration of the poor in rural areas, particularly those in Upper Egypt. Even though rural regions are poorer than urban, inequality in income distribution is less in rural than urban regions of Egypt. However, more income distribution equality associated with much less income level than urban, is a disadvantage, as it means that poverty is wide expanded and more deeper in rural than in urban.

From (**Table 12**) Estimation of Rural/Urban Parity Food Price ratio showed that the food prices level had apparently decreased since 19975 until the end of the last century. This was due to very low rate of inflation of the food prices in rural regions in comparison with urban regions over the period 1990-2000. Although the last decade of the 20th century was the era of the drastic changes in the Egyptian economy from central planned economy to a free market system (**Hazell, 1995**), it seems that the rural regions significantly resist the food price inflation due to high rate of consumption of farm-produced products. This because the consumed home produced items is valued at cost price. The monetary burden of such cost represents only the purchased inputs, (**Soliman, and Eid, (1995**).

However, the Rural/Urban Parity Food Price ratio has rapidly increased over the last decade (2000-2010). The food prices inflation rate in rural regions strongly surpassed the urban regions. This was due to heavy subsidy of food items devoted to urban regions relative to the rural. In addition, it was due to urbanization of wide areas of rural regions adjacent to the cities, which increased the demand for food commodities in these newly urbanized rural regions. A third reason may stem from the changes in the rural consumer's behavior towards simulation consumptive behavior of the urban regions due to expansion of the communication tools, commercial promotions and media (**Soliman, 2000**).

The Egyptian statistics lack of regular continuous estimation of CPI for both urban and rural regions. However, food consumption expenditure represents more than 50% of total households' expenditures of most Egyptian households. Therefore, the estimated price index of the food basket **(Table 12**) was applied to get the real per capita annual income in both urban and rural over the period 1975-2010, (**Table 13**).

The estimates in (**Table 13**) table showed dramatic changes that had occurred in the Egyptian economy during the period 1975-1990, from central planned economy to free market without proper institutional policy view. These changes had generated severe disadvantage impacts, which surpassed the few advantage ones. In reality, both urban and rural communities had suffered from shrinkage in the purchase power with negative economic growth in both communities. The great expansion in foreign investments, mainly from the European and American forms was associated with significant positive economic growth between 1990 and 1995, (**World Bank, 2010**). After that until the year, 2010 there was deterioration in the real income and economic growth of both urban and rural communities due to distortion in the applied economic policies. The successive governments over the period 2005-2010, (**UNDP, 2010**), i.e. till the 25th of January revolution has focused on the rent and paper economy which was reflected only on some categories of urban communities, while the rural regions did not make benefits from such policy. Thereof, the urban households of the beneficial categories had made benefits in terms of economic growth with a decrease in the rural real economy. Accordingly, the new regime after the revolution should give much interest to rural development, to fill rapidly the rural/urban development gap.

Sørli, Gleditch and Strand (2004) claimed that the lack of economic and political opportunities among the communities within a certain country, provide a fruitful soil for frustration and opposition. They added that Poor countries or groups within a nation, trapped in poverty, have a greater propensity for violent conflict with a higher probability of conflict outbreak more than global average. **Bloomberg S. Brock, Hess, George D (2002)** stated that "reduced levels of domestic economic activity tend to create incentives for increased external and internal conflict, which in turn reinforces low levels of domestic economic activity". Therefore, a conflict-poverty trap emerges where conflict plays a role in reducing capital accumulation, and the lack of capital accumulation results in further conflict. Even though, there is a recognized causal relationship between inequity and violence, **Collier, P., (1999)** concluded that even if economic inequity is significant in causing civil war; the "Collier and Hoeffler's model of civil war" lacks means to measure its influence.

iv. Does Disability Accelerate Prevalence of Poverty in Rural More than Urban?

The Prevalence of disability is highly correlated with the socio-economic background, as 30% of those who are disabled are in the lowest wealth quintile and 12.5% are among the wealthiest group. The international literature on disability confirmed the strong association between poverty and disability, with disabled children from a young age facing challenges to acquire the necessary medical services. The prevalence of cases of youth with disability is strikingly correlated with region of residence, with 65% of the disabled being located in rural areas. The limited labor market and education potentials of young people from poor households perpetuate an intergenerational cycle of poverty. Accordingly, place of residence is another major determinant, with those in rural settings consistently performing poorly in terms of health, education and labor market outcomes, (**Bush , 2007**)

III- Degrading Natural resources

God has granted each community stockpile or a certain volume of wealth of natural and human resources. The man generated a new economic factor which is the capital using the natural resources with

technological packages to satisfy the evolution of the quantitative and qualitative evolution of the demand of the community. Thereof, such demand accelerates the scarcity of the limited natural resources. The Egyptian economy has severely suffered from the impacts of these economic sequences, due to the distorted policies practiced over the last five decades, in particular, those affected the agricultural land and water resources, (**Soliman, 2006**).

Thereof, Egypt economy is turning the twenty-first century with a big challenge. It has to build up a new development system aiming at an efficient employment of a combination of natural resources with human resources, and to block the depletion of the agricultural land and water resources in either quantity or quality. The sustainable development should work on maintaining the share of the future generations. Such share should be developed, taking into account the increasing diversity of their satisfaction due to the evolution of civilization and the expected economic and social development, (**Soliman, 1995**). Therefore, this section aims to investigate the changes occurred in the agricultural natural resources in Egypt over the last four decades, with focusing on the quantitative and qualitative degradation in those resources.

It should be mentioned that, the practiced policies for the management of the agricultural land and water resources in Egypt have lacked of social costs and prices implementation, which generated a case of market failure that led to enlargement of the degradation in the quantity and quality of both natural resources.

i. Agricultural land Resources

Despite the scarcity of data and accurate information regarding the areas withdrawn from agricultural land for nonagricultural uses, the study tried to extrapolate their validity to view a time trend of the changes of these areas. In addition, the study tried to identify the classification patterns of the non-agricultural uses to specify the economic and social connotations in rural communities. The study used a procedural definition for the pattern of the deductions of agricultural land for the non-farm purposes. Some of the nonagricultural uses were associated with agricultural development. These were the barns for animal and poultry production and processing plants for agricultural industries. However, the argument still valid, that even these purposes concerned with agricultural activities, but they imposed deduction of the fertile agricultural land within the Nile Delta, which would be difficult to be compensated in the absence of the Nile flood.

The study tried several methods to track the deduction of agricultural land for nonagricultural purposes since 1970 until 2012. The time series of the official statistics showed the total agricultural land and the reclaimed land as shown in (

Table 14). These data were not satisfactory to reach logical estimates of the land withdrawn for agricultural to nonagricultural purposes. The aggregate increase in agricultural land was 3682 thousand feddans (One feddan = 4200 m^2) and the aggregate reclaimed land was 1735 thousand feddans, i.e. the increase in agricultural land, according to the official statistics surpassed the reclaimed area by 1210 thousand feddans, in spite of the land withdrawn for nonagricultural uses.

This falsity in agricultural land estimates imposed the study to collect all published studies on the agricultural use of land resources to devise realistic chronological trend for agricultural land use over time. There are few available studies on agricultural land withdrawn for nonagricultural purposes. These studies imposed to present the changes along discrete periods rather than continuous annual base. One of the main conclusions from these studies was that the land deduction has two main patterns. The first is a legal deduction of agricultural land under official approval for either public utilities and/or private enterprises. The second was illegal disposal, even though; some were for related agricultural activities.

The Patterns of legal withdrawal of land included establishment of animal and poultry farms or stores for seeds, fertilizers or shelters for machineries and/or finally for building houses within the planned cities urban cordons.

The second pattern was the illegal withdrawn of agricultural land. Some practices were just set-aside the land as fallow till they got an opportunity to build on it. Some other illegal practices were just dredging the agricultural land and selling the silt for making brakes for building. Later they have caught an opportunity to build on such degraded land. Some other illegal actions were to go directly for establishment concrete buildings for activities related to the agricultural sector, either as cattle and poultry pens, storage or warehouses and plants for storage and packaging. However, an expanding acreage has been occupied by residential construction, particularly in villages adjacent to big cities. Such residential areas were the nucleuses of "Slams" which are called domestically "Ashoaiatt" Such slams have become the focus of social troubles as they demand for services, infrastructure via social pressure even though they live in illegal residences.

Table 15 Shows the estimates of the total land withdrawn for nonagricultural purposes during the period from 1970 to 2010. The total agricultural land withdrawn over the concerned period reached 1274 thousand feddans with an annual average rate around 40 thousand feddans. Such rate fluctuated periodically. While 40% of the total deducted land for nonagricultural usages was during the seventies of the last century, such rate decreased to only 27,000 feddans during eighties of the 20th century because of the legislation No. 116 issued in 1983 concerning preventing construction on agricultural land. Then such rate declined during the nineties of the 20th Century to about 14,000 feddans a year due to the act of the military ruler (Prime Minister) in 1997, which prohibited any nonagricultural constructions on the agricultural land. Since the onset of the 21st Century until January 2011, the annual rate of agricultural land withdrawn for nonagricultural usage rose again to 35,000 feddans a year, due to application of the planned program of urbanization (Cites Construction Cordons Plan), particularly, in the Nile Delta Governorates that do not have a desert borders. The circumstance of lawlessness has been dominant in Egyptian society after the revolution of January 25, 2011. It resulted in a boom of construction on agricultural land. The General Directorate for the Protection of land recorded more than 14 thousand feddans until mid- February 2012.

Comparing the total agricultural land withdrawn illegally, (**Table 16**) was not more than 9.1% of the total land withdrawn for nonagricultural purposes (**Table 15**) over the same period. It means that most of withdrawn land was licensed. Thereof, the agricultural land for nonagricultural usages have influenced by government policies rather than the individuals social and economic attitudes.

The intensive demand for withdrawing the agriculture land for the nonagricultural uses was due to the much higher estimated price of land for nonagricultural purposes than that for cultivating the same land. The price of one acre for construction purposes was estimated as 10-15 times that price for agricultural use, (**Soliman, and Rizk, 1991**). Such price difference was responsible for 71% of the area withdrawn from agricultural land to other nonagricultural purposes. The same study showed that the agricultural land market was oriented by the demand for the nonagricultural purposes. estimated the price elasticity of the demand for nonagricultural use as 0.9, while the demand for agricultural purposes showed a price elasticity

close to zero. However, the same study showed that the improvement in soil fertility by 10% reduces the demand for urban purposes by 3%.

The increase in population was an important factor behind the increased demand for non-agricultural purposes in the Egyptian countryside. **Soliman and Rizk, 1995**, showed that the population increase by 10% would increase the withheld of the agricultural land for the purpose of construction by about 4.4%. Such response was the double in the villages near the cities.

A study on the economic efficiency of agricultural resources in Arab Countries (**Soliman, 2006**), showed, quantitatively, how valuable is the irrigated land in comparison with the rain fed areas. The agricultural production of Arab countries did not show a significant response to the changes in rain fed areas. However, each additional acre of irrigated land showed an additional value to the agricultural production about US$4000 per year (2004, constant price). That study also estimated the value (the price) of one acre of irrigated land of the Arab Countries as US$100,000, (2004 prices = 100). Such value supposed to be much higher in Egypt as the agricultural land is fully surface irrigated of a high density of cultivation, where the crop density coefficient reaches nearly 1.76 in the agricultural season 2009 (**Egyptian Ministry of Agriculture, 2010**). In addition, as the Nile flood has been vanished after the establishment of the high dam at Aswan, the opportunity cost of the Nile valley agricultural land supposed to be much higher, because there would not be more silt added to such soli. Thereof, losing an acre could not be replaced feasibly by a newly reclaimed one, as **Abdul Aziz and Mohammed, (2007)** estimated the costs of reclamation of one acre by US$2200, and the productivity would be much less than the old Nile valley land.

As shown, earlier in this section that the higher the soil fertility, the less is the demand of Egyptian agricultural land for urban use. However, **Soliman and Rizk, (1991),** provided evidences that the main reason behind the decline in the Egyptian agricultural soil fertility was that the ground water level has being raised closer to the soil surface due to the imbalance between the speed expansion of the drinking water network and the reluctant expansion in swage network in rural areas. Such reason was responsible for 25% of the soil fertility deterioration in Egypt. That study, also showed that 10% increase in the ground water level resulted in 8.6% deterioration in soil fertility. The latest statistical report (**CAPMAS, 2010**) showed that the Egyptian village houses connected to the drinking water reached 81.6% while the houses connected to the sewerage network did not exceed 12.8% in the Egyptian countryside

The extended contamination of agricultural land due to receiving many of the sources of pollution is another dimension that causes a qualitative waste of land resources. Numerous villages pour the municipal wastes and others in the soil, which made it a source of environmental pollution. A recent study, (**Said, 2011**) showed the deterioration in the soil fertility due to the increase in its salts content which, resulted from poor drainage. The negative externalities of degradation in the chemical and physical characteristics of the soil resulted from excessive use of chemical fertilizers, especially nitrogen, and the irrational use of pesticides, and pouring the sewage and industrial waste into water canals and farmland edges. In addition, the desertification of the farmland that stemmed from the moving of the sand dunes, which cover the soli and lead to degradation in the soil fertility especially in upper Egypt, where the green land width is very narrow.

ii. Irrigation Water Resources

Although water resources govern any agricultural development program, available water in Egypt have reached a level less than the critical per capita water poverty line. The per capita share has dropped annually from about 1024 cubic meters in 2002 to about 901 cubic meters in 2010 (**CAPMAS, 2012**). Egypt is located within the dry belt. However, the Egyptian water resources amounted to around 70.9 billion cubic meters in 2010. Although 78.27% are from a sustainable source of the Nile River, it is going to be an unsecured water source due to the existing arguments around water distribution between upstream and downstream countries. The nonrenewable sources represented about 8.88% from depleted groundwater in the Valley and the Delta in 2010. The unstable rain resources and water-harvesting share reached 1.83% of water resources supply in 2010. The recycling of agricultural drainage water represented 9.16% of Egyptian water resources in 2010. The recycling of wastewater represented 1.84%, in 2010. Thereof,

around 10.7% were from unstable water sources (groundwater and rainfall) and about 11% were from water resources, which are unstable in quality, i.e. vulnerable to potential contamination (recycling of drainage water and sanitation water).

Agriculture accounted for roughly 82.5% of total water resources to irrigate nearly 8.7 million acres. The household uses approximately 12.9% of the total water supply, followed by industry, which consumes 1.6%. The loss goes to the sea is around 3% of the total water available in 2010.

The irrigating network spreads over more than 10 million fields and via a network of canals account about 40,000 km. The agricultural drainage network serves about 20,000 km. Such huge surface irrigation networks face logically technical and economic difficulties in management and suffer from numerous waste sources. In addition, as old agricultural system extended deeply in the human culture history is carrying some inherited social traditions, which orient the farmers' behavior towards Water use. The social belief in Egypt is that water in canals is free use. These traditions also share in both the quantitative and the qualitative waste. The later has negative externalities, which cause pollution that in turn affect the human, animals, and fish health as well as the agronomic production in Egypt (**USAID, Egypt, 2002**).

a. Types of Quantitative waste in the water resources

The study identified from the literature four types of Quantitative waste in the water resources:

The first type of Water Loss:

It stems from inefficient water delivery (**Caesar, 1997**), (**Abdul Fatah,, 2003**), and (**Saied, 2011**) estimated the efficiency of irrigation water from Aswan to the fields as shown in (**Table 17**). The most important conclusion from the findings of these studies highlighted the loss along the irrigation network, which was much higher than its official statistics estimates. The later estimated the annual loss by 2.2 billion cubic meters, which is equivalent to only 2.5% of the amount of water at Aswan, while the research studies estimated such loss percent between 19.5% to more than 29.21%. These studies confirmed the common complaint of farmers, especially in the summer season, from the lack of enough water charge to reach their fields. The farmers postulate that they receive, even less than the quantity determined theoretically by the Ministry of Irrigation, (**Soliman, et al, 1992**).

To wrap up, it seems that agriculture sector is not only the major consumer of the limited water resources in Egypt but it is also the main culprit in the water loss. Such loss is the result of using this huge network of open canals, which carry water to deliver it to the fields. Therefore, it is expected to face with huge loss due to evaporation and seepage, in addition to poor maintenance of pumping stations.

The second type of loss:

It is due to the inefficient irrigation systems, **Emad Al-Din (1990)** showed that there would be a possibility of saving of about 2 billion m^3 of water if the patterns of distribution and consumption of water for irrigation was rationalized. **Al Saied, (1997)** cited the lack of efficient surface irrigation. He estimated an average irrigation efficiency of 60 percent for crops and about 50 percent for rice irrigation.

The third Type of Loss:

The third of these sources of irrigation water loss is derived from the low efficiency of water management at the farm level, which is incompatible with the principle of sustainable development. It also stems from the unbalanced withdrawal from groundwater reservoirs and the lack of reservation of the surplus of rains' water. A case study in Kafr El-Sheikh governorate from the Nile Delta region provided evidences for such type of loss. It showed that there was a loss in the actual charge of irrigation water of around 68% above the recommended charge. The same study showed that the actual flow of the mixed water (Sweet water and irrigation drainage water) surpassed the recommended charge by about 17.6% (**Moftah and Al Safty, 2005**).

The fourth Type of Loss:

This source of loss is indirect. It is derived from Appling cropping patterns that are inefficient in using the irrigation water, (**Alkholi, 2009**) and (**Al Saied, 2011**). These two studies concerned with

rationalizing the use of water according to the economic logic. However, they have varied results due to different times and different crop and input prices. In addition, such type of studies that depended upon Linear programming models could be not accurate in estimating the rent value of an acre as a major costs item, particularly after the liberation of the land market in 1997. Now there is a distinct different in the rent between agricultural areas, as well as, between the old and the New territories land in Egypt. For example, the study of **Al Saied, (2011**) indicated that the proposed cropping pattern based on the economic logic was not much different from the existing one. The other study of **Alkholi, (2009**) showed that there would be no place for grain crops, if the economic costs of a cubic meter of water was taking into account and there would be a room only for expansion in vegetables and fruits at the expense of cereals.

We can conclude that the miss use of water at farm level due to the third and fourth types of loss (at farm level) are mainly due to the market failure of the water market. As long as the water is provided almost free, but the cost of lifting the water from the tertiary canals, the farmer takes the decision on the crop he (she) cultivates and the area he (she) allocates for each crop on base of the profit calculated from a budget Which does not include the opportunity cost of water

b. The Waste in Water Resources Quality

The growling of the water quality means deterioration in the validity of water for different uses. Such changes cause deterioration in the water physical and chemical characteristics and/or its microbial content (**Goueili, Soliman and Rizk, 1988**), (**The Shura Council, 1997**). The main reason of water quality deterioration is the disposal of municipal, agricultural drainage, the remnants of chemical fertilizers, pesticides and the industrial waste in the course of canals. Such materials seep into the water stream and aquifers.

Another reason stems from the imbalance between the expansion in delivering potable water networks to villages and rural towns with reluctant in similar programs for connection of sewage networks, as mentioned under the agricultural land waste. An indirect reason results from saltwater intrusion with ground water due to excessive withdrawal of the fresh aquifer water.

The successive governments over the last five decades have shown insufficient attention to the Nile water pollution which associated with the absence of environmental awareness, not only, among members of the community but also among the official institutions.

Egyptian literatures have shown some estimates of the social costs of the negative externalities, of exposure to pollution, on the individual members of the community, (**Soliman, 1995**). These externalities expand from chronic diseases up to the extreme of possible mortality. He evaluated the positive and negative externalities associated with the establishment of the high dam,. That study showed that the social cost of a death of a person due to pollution approaching 150 thousand dollars (1Cat 1995 price level).

IV- Worrisome Demographic Trends and Migrations

a. Migration Indicators

The demographic changes in population structure (**)** show a very important issue that has affected much the performance of the Egyptian Economy. While the total population size grew from about 52 million inhabitants in 1986 to around 83 million in 2009, and the urban population grew at almost the same rate, the rural population has shown vital demographic changes over that period. The share of agricultural population in rural society declined from almost one-half of the rural regions in 1986 to only 29% at a decline annual rate of 0.3%. On the other hand, the non-agricultural rural population increased from only 7% of the rural communities to more than 29% of such communities at annual growth rate of 8.2%, in the same years, respectfully. The resultant was a growth of total non-agricultural population, either living in rural or urban regions from 51% of the total population to more than 71% along the last three decades. It seems that the newly urbanized rural population has not only shifted from food producer to only consumer, but they have being simulated the high urban propensity to consume, either quantity-wise or quality-wise. In addition, such abundant non-agricultural population usually faces lack of employment opportunities that generates satisfactory income either in rural or urban regions. Thereof, they have made extra pressure upon the demand for agro-food sector, without sharing in expanding its supply**,** (**Soliman, 2000**).

Either the non-agricultural population stayed in rural communities or migrated to new urban community, they are always suffering from lacking of satisfactory jobs to cover their ambitious acquired desire to improve their consumption attitudes. Accordingly, they have become a main source of expanding the categories under the poverty line and enlargement of the government budget of food and services subsidies (**ILO, 2008**).

The expelling factors surpassed the attracting ones of settlement in rural societies, particularly with the liberalization of the agricultural market by 1986/1987. This was due to the lack of integrated rural development programs. Since 1994, Egypt's Human Development Reports and the growing number of indicators of well-being have consistently shown the persistent level of deprivation of rural communities. They are deprived in terms of physical infrastructure facilities as well as education access and outcomes. Moreover, the quantity and diversity of job opportunities is far more restricted in rural Egypt and can explain the strong tendency for rural-urban migration and the very fast expansion of informal Slums (*Ashwaiya*t) which offer intermediate earnings and living conditions between rural and urban regions, (**UNDP Egypt Human development Report, 2010)**.

Migration broadens young people's opportunities and offers them a way to earn higher income and gain skills, (**The World Bank, 2004**). However, many Egyptian youths aspire to migrate; few actually succeed to do so. According to SYPE (2010), 15% of Egyptian youth, 18-29 years old, aspire to go live or work abroad, but only 1.6% had managed to do so. By now, it is well established that migration from Egypt is mostly made up of temporary migration to other Arab countries, whereas the proportion of return youth migrants from European destination countries is almost negligible, perhaps because those who go there do not return (**UN Department of Social and Economic Affairs, 2009**)

. Surprisingly, education appears to be a powerful motivator for migration of both young men and young women. Both the aspiration and actual migration rates increase steadily with education. It ranges from 4.5% for those with no school certificates to 20.9% for those with university education (**ILO and Ministry of Manpower and Migration, 2009**). University-educated young men are nearly 3.5 times as likely to migrate as men with no school certificate are, and university-educated women are more than 8 times more likely to migrate than their counterparts with no school certificate are. It, apparently, means that the higher the education level in Egypt, the less is the opportunity to be employed, (**Migration (DRC), 2007**). However, **El- Kogali S. and Al-Bassusi N, (2001**) add that the increase in both migration level aspirations as well as actual migration with education level reflects the role of education in facilitating migration. Men from urban slums milieu and from rural areas are much more likely to migrate than men from urban non-slum areas **(El-Kogali, S., and E. Soliman, 2001**). Absence of job opportunities (51%), poor living conditions (33.9%), the relatively low income in Egypt compared to other countries (33.0%), the need to assist their families financially (14.7%), and the need to earn money (12.7%) are motivations behind migration.

Table 18 shows high proportion of Cairo and Giza population are from internal migration. The majority of migrants are from Upper Egypt rural areas whereas relatively the lowest income communities. This may be behind the increase in the numbers of slum dwellers in Cairo and Giza, which amounted to more than 6 million people, representing about 50% of slum dwellers in Egypt in January 2008, (**ILO, 2008**). According to data from the Central Agency for Public Mobilization and Statistics some studies point to the negative impact on the educational process of these massive immigrations into peril-urban metropolitan region "Cairo and Giza" (**El-Kogali, S., and E. Soliman, 2001)**. In addition, the three cities along the western bank of sues canal, Port Said, Ismailia and Suez, have showed the highest rate of migration among their populations. However, the reasons were mainly due to duel migration (out from and to) during wars at sues canal borders over the period 1967-1973, (**UN, 2009**). Most of rural immigrants to the Arab countries and their job opportunities are mostly in the farming and construction sectors as unskilled labor were from rural areas of Egypt. These opportunities have been the main source of savings in the form of remittances, which are, subsequently, engaged in projects as young entrepreneurs (**Zohry, A. and Harrell-Bond, B., 2003**).

A small proportion of young people in Egypt (about 11% in 2006) have never gone to school. These young people have never unemployed. If they enter the labor force, they usually transition to work early and generally work either in agriculture or in the informal economy (**ILO, 2008**). The slowing economy resulting from the onset of the world financial crisis, in 2008 led to an increase in male joblessness for all educational categories except university graduates, which is the same trend observed for unemployment

The total residential population of Egypt surpassed 81 million inhabitants in 2010, of which about 26 millions are economically active, i.e. around one-third. While the agricultural male labor was round 25% of the labor force the non-agricultural male labor was 75% in 2010 (Error! Reference source not found.). In addition, the share of female agricultural labor was 10% of the total labor force. The non-agricultural female share in labor force was 16%. The major reason behind the small share of agricultural labor in the total active labor was the decrease in the agricultural male labor by 0.5% a year over the period of Economic reform Era (1986-2009) while the non-agricultural male labor increased over the same period by 3.2%. The agricultural female labor's share increased at a positive annual rate of 0.3%. Even though, the non-agricultural female labor expanded fast at annual growth rate of 4.6%. A main reason behind the decrease in the agricultural labor, particularly, the males, was the expansion in mechanization system in agricultural production over the last three decades, (Error! Reference source not found.**,** Error! Reference source not found.**, and** Error! Reference source not found.). It should be noticed that (Error! Reference source not found.) shows less area per tractor over time, which means more density of mechanization is achieved.

b. Employment Indicators

Egypt, like much of the Middle East, faces a major unemployment problem, which is exacerbated by its relatively young population. The vast majority of Egyptians work in agriculture or the informal economy, but others work in manufacturing, social services, the government sector, tourism and other industries. Agriculture continues to dominate the Egyptian employment market. More than 30 percent of the population works in the agriculture sector. The end of the 20th century saw a huge population shift into cities, particularly Cairo, but rural employment in agriculture remains strong[3].

Textiles have traditionally been one of the first manufacturing sectors to develop in an emerging economy. By the end of 2009 the Egyptian textile industry was growing at a rate of 30 percent per year. The 20th century ended with approximately 13 percent of the population employed in some type of industry--mostly light manufacturing--with another 7 percent employed in construction.

Official estimates differed on employment figures. According to the Ministry of Planning, employment in the formal sector increased at the rate of 2.6 percent per year between 1976 and 1986 (the census years). The number of workers in agriculture stayed steady, at around 4.2 to 4.5 million, during the same period. Agricultural workers represented 44 percent and 37 percent of total employment at the beginning and end of the period, respectively, indicating a decline in agriculture's share. The preceding data may exaggerate the participation of labor in agriculture, which in the 1980s became only a part-time occupation for many workers as employment patterns in the countryside began to resemble those of some urban areas. Overall, the 1986 census showed that employment in rural areas was about 6.19 million, compared with 5.48 million in urban areas.

In 1976 and 1986, industry absorbed about 13 percent and 16 percent, respectively, of total employment. The annual growth rate of employment in the sector was 4.5 percent over the same period. The number of people employed over the same period fell substantially in construction and rose steadily in the services, which absorbed about 31 percent of the labor force in 1986. Employment in trade grew significantly following the initiation of Sadat's open-door policy and the import boom after 1974, and leveled off subsequently the distribution of employment also shifted along gender lines. Female participation in the labor force grew steadily, although slowly. One estimate gave the female share of total employment as 8 percent and 9.5 percent in 1976 and 1988, respectively, representing a growth rate of 4.1 percent annually.

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[3] http://www.ehow.com/info_7756006_egypts-types-employment.html#ixzz2MtniTtbi

The breakdown of public versus private employment was difficult to ascertain because official statistics did not distinguish between the two. Employment in the private sector in 1977 was more than double (6.6 million to 3.1 million) that in the public sector and was concentrated in agriculture and the services. It has been estimated that the increase in private employment accounted for more than 65 percent of overall employment growth between 1973 and 1983, suggesting that the ratio of private to public employment increased. Considering that both overall employment and government employment stagnated after 1983, the ratio also probably remained unaltered thereafter.

Information on employment in the late 1980s in the informal sector, which included small-scale manufacturing, handicrafts, personal services, retailing, and other ill-defined activities, was not available. Activities of the sector were not registered, and participants changed their jobs frequently. Most of those considered unemployed probably engaged in one or another of these activities; hence, the size of the informal sector was most likely to expand as unemployment increased at the close of the decade. Mobility between the informal and the formal sectors was effectively nonexistent; those who joined the informal sector overwhelmingly remained there.

Employment grew at a slower rate than did the population and the labor force, resulting in a worsening unemployment situation. According to official accounts, the rate of unemployment increased from 2.8 percent in the period from 1975 to 1977 to about 12 percent in 1986. The figures probably understated the problem, because other informed sources put the rates at 20 percent to 25 percent in 1987 and 1988. Analysts adduced a multitude of reasons for the rapid increase in unemployment, including high population and low economic growth rates, inability of industry to absorb larger numbers of workers, high capital intensity in new industrial enterprises, the focus of the 1980s Five-Year Plan on the infrastructure, and the return of Egyptians formerly working abroad.

Although Egypt had a high percentage of high school and college graduates, the country continued to face shortages in skilled labor. Probably 35 percent of civil servants and 60 percent of persons in public-sector enterprises were unskilled or illiterate. The lack of skilled labor was blamed on, among other things, the cultural bias against manual work, the theoretical nature of courses in most higher education institutions, and the emigration of skilled personnel abroad, where they received higher wages. There were complaints that the implementation of development plans was hampered by the insufficient supply of skilled labor.

c. Labor Force By Sector

d. Unemployment Indicators

Unemployed Persons in Egypt increased to 3519 Thousand Persons in the fourth quarter of 2012 from 3357 Thousand Persons in the third quarter of 2012. Unemployed Persons in Egypt is reported by the (**CAPMAS, 2013**), Egypt. Historically, from 2003 until 2012, Egypt Unemployed Persons averaged 2500.39 Thousand Persons reaching an all-time high of 3519 Thousand Persons in November of 2012 and a record low of 2022 Thousand Persons in February of 2003. In Egypt, unemployed persons are individuals who are without a job and actively seeking to work. This page includes a chart with historical data for Egypt Unemployed Persons

Unemployment Rate in Egypt increased to 13 percent in the fourth quarter of 2012 from 12.50 percent in the third quarter of 2012. Unemployment Rate in Egypt is reported by (**CAPMAS, 2013**). Historically, from 1993 until 2012, Egypt Unemployment Rate averaged 10.26 Percent reaching an all-time high of 13 Percent in December of 2012 and a record low of 8.10 Percent in June of 1999. In Egypt, the unemployment rate measures the number of people actively looking for a job as a percentage of the labor force. This page includes a chart with historical data for Egypt Unemployment Rate.

In addition to unemployment, economists pointed to underemployment, or disguised unemployment. There was a consensus that underemployment was rampant in the government bureaucracy, because of overstaffing and low remuneration. In 1990 the government was considering paying private-sector employers a two-year salary for every new graduate they hired. It viewed the measure as a means of checking the expansion of the bureaucracy and ameliorating the unemployment problem. In addition to

unemployment, economists pointed to underemployment, or disguised unemployment. There was a consensus that underemployment was rampant in the government bureaucracy, because of overstaffing and low remuneration. In 1990 the government was considering paying private-sector employers a two-year salary for every new graduate they hired. It viewed the measure as a means of checking the expansion of the bureaucracy and ameliorating the unemployment problem.

V- Public Health Concerns

The interdependence of factors influencing health outcomes in a vision of sustainable human development was exemplified in the Millennium Development Goals (MDGs) that place health at the heart of development with health-related aspects in each of the eight Goals. The MDGs are designed in a manner where the realization of each goal can have positive returns on health outcomes. Health is ultimately dependent on the vitality of natural's life-supporting processes and that investment in stronger multi-sectorial public health and primary preventive capacities within national policies can provide quick and positive health returns (**League of Arab States and United Nations, 2007**).

Although the households' access to piped water has almost reached 100 % in both urban and rural Egypt, the households with access to sanitation network reached on the average 62.5% of Egypt households in 2008. Whereas Sanitation network reached about 97% of households in urban governorates, and 93% of Lower Egypt urban households, it was accessible to only 76% of urban households in Upper Egypt. In Rural regions the imbalance between access to piped water and sanitation network was the worst among Egyptian regions. Where the piped water reached 97% of the rural households only one-third of them have access to sanitation network. Only 13% of rural households in Upper Egypt had access to sanitation in 2008. On the other hand, estimates on the density of hospitals' beds per 10,000 persons were only available from urban regions data, as obviously the hospitals are centralized in cities and towns. Whereas, 30 beds serving 10,000 persons in big cities, less than 20 beds are available for the same number of persons in the rest of Egypt. While 13 doctors serving 10.000 urban citizens only 2 doctors serve the same density of rural citizens, (

Table 18 Internal Migration as % of total population in 2008

Region	internal migration	Region	Internal migration
Cairo	11.9	Bani Suif	2.2
Alexandria	6.7	Fayoum	0.6
Port Said	34	Minia	0.7
Suez	37.9	Asyut	1.2
Ismailia	31.3	Suhag	0.6
Damietta	5.4	Qena	1.4
Dakahlia	1.9	Luxor	1.3
Sharkia	4.6	Region	3.6
Kalyoubia	14.4	Red sea	28.7
Kafr El Sheikh	2.6	New valley	16.7
Gharbia	1.7	Matrouh	13.5
Menoufia	2.1	North Sinai	14.1
Behera	4.1	South Sinai	27.4
Giza	20.4	EGYPT	6.6

Source: collected from data of several issues of "The official Labor Force Survey", carried on a quarterly basis

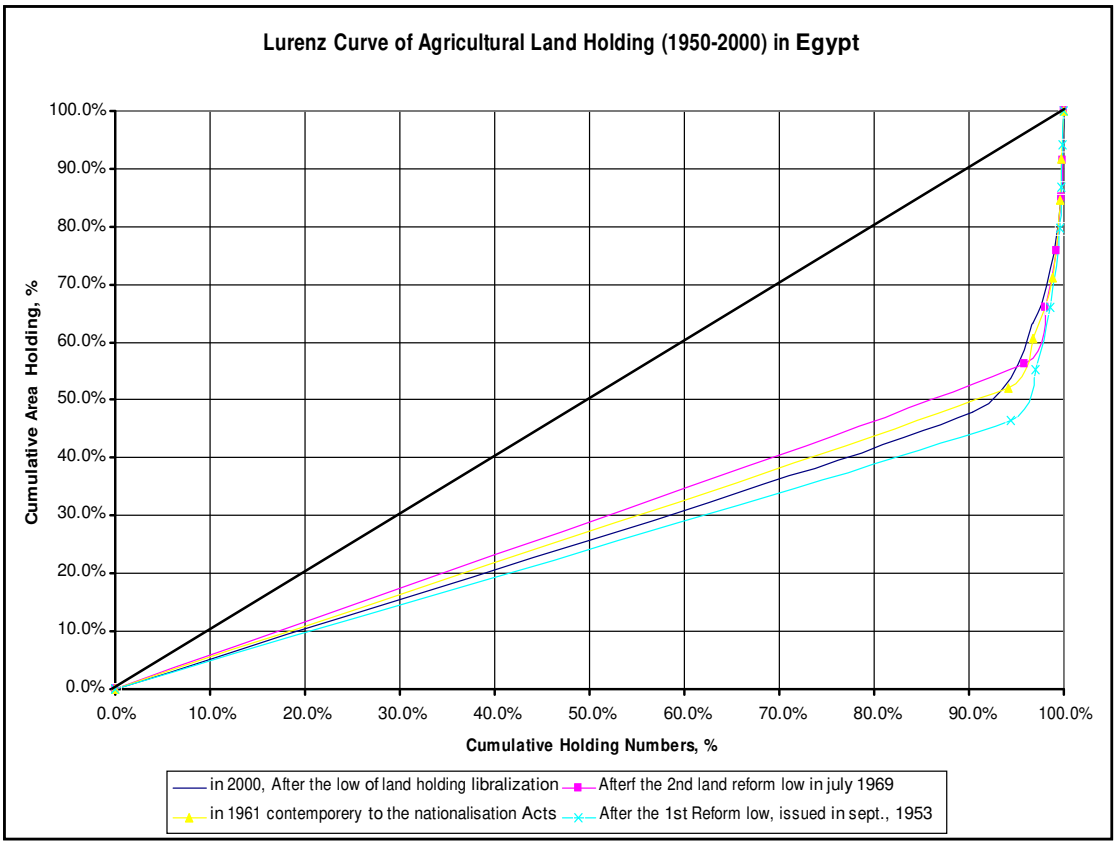
Year	Agricultural Area (000) Hectares	(000) Tractors	Hectare/Tractor	Agricultural Labor (Hrs/Year/Hectare)
1986	2567	52000	49	3335
1987	2547	52290	49	3400
1988	2581	53000	49	3395

1989	2571	55000	47	3445
1990	2648	57000	46	3377
1991	2643	59000	45	3415
1992	2900	61000	48	3139
1993	3246	78099	42	2821
1994	3246	78846	41	2800
1995	3283	89080	37	2837
1996	3286	88000	37	2856
1997	3300	86000	38	2877
1998	3300	86000	38	2910
1999	3483	86000	41	2789
2000	3291	86255	38	2987
2001	3338	92203	36	2979
2002	3424	93340	37	2931
2003	3409	94482	36	2983
2004	3478	96265	36	2965
2005	3523	98051	36	2965
2006	3533	100317	35	2979
2007	3538	102584	34	2994
2008	3542	105121	34	3018

Source: (1) Calculated from: FAO Statistics Division: FAOSTAT 2010, December 2010, http://faostat.fao.org/site/570/default.aspx#ancor
(2) Ministry of Economic Development, Economic Indicators (http://www.mop.gov.eg/English/english.html, December 2010

Table 19). There is a higher ratio of the nurses to doctors in rural regions than urban regions in Egypt. This phenomenon is probably, implies not only the lack of enough doctors in rural regions but it also indicates that rural females prefer to work as nurses within the vicinity of their home villages for social reasons and because other employment opportunities in rural areas, particularly for women, are rare.

Figure 1



Source: Drawn from: (Table 6) and (Table 7)

Figure 2 Impacts of 25th Revolution on Egyptian Exports

Figure 3 Impacts of 25th Revolution on Egyptian Imports

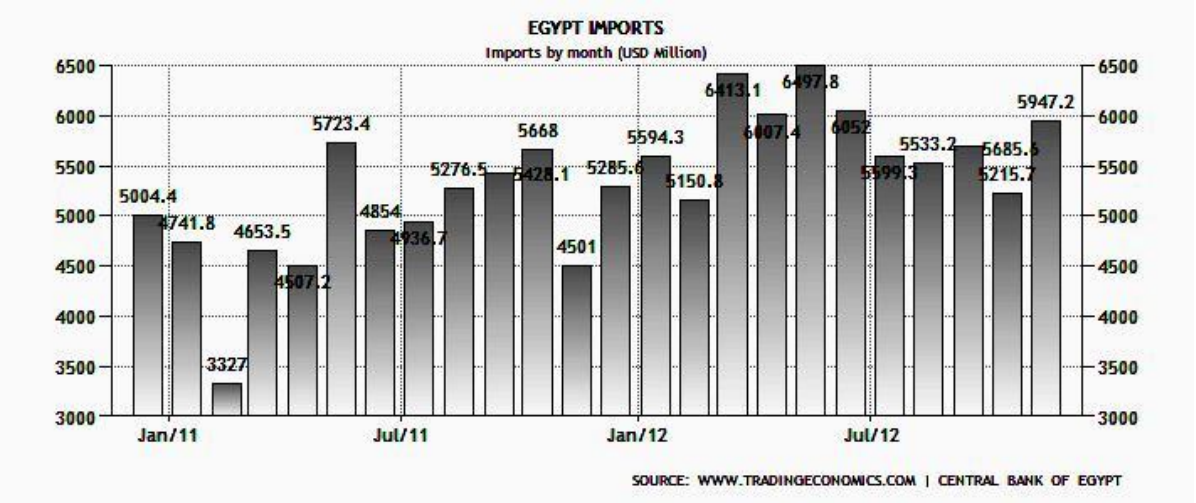


Figure 4 Unemployment Rate of Egypt (2011-2013)

Table 1 Share of Egyptian Agricultural Products in Total Exports (Value in Million US$)

Year	2007	2008	2009	2010	2011
Total Exports	16181	26204	23102	27324	30611
Agriculture Products without Cotton	1048	1875	2819	2887	2744
% of Total	6%	7%	12%	11%	9%
Food Industries	224	536	758	1355	1274
% of Total	1%	2%	3%	5%	4%
Leather and its Products	84	86	108	182	151
% of Total	0.52%	0.33%	0.47%	0.67%	0.49%
Cotton , Textiles , Cotes	768	1858	2210	3094	3211
% of Total	4.7%	7.1%	9.6%	11.3%	10.5%
Exports of Agricultural Origin	1076	2480	3076	4631	4636
% of Total	6.6%	9.5%	13.3%	16.9%	15.1%

Source: Compiled and Calculated from CAPMAS, Central Agency for Public Mobilization and Statistics (2013), Nasr City, Cairo, Egypt

Table 2 Average annual growth rate of Egyptian Foreign Trade Flow 2007-2011

Trade Flow	Average annual growth 2007-2011 (%)
Imports from the world	21.3
Exports to the World	16.6
Imports from EU-27	7.8
Exports to Eu-27	7.8
Agricultural Imports from EU-27	21.4
Agricultural Exports to Eu-27	4.3

Sources: Compiled from: Eurostat (Comext, New Cronos), IMF (DoTS), World Bank (WDI), 2012

Table 3 Influences of January 2011 Revolution on Egyptian Exports (Value in Million US$)

Year	Exports to the World Market			Exports to the EU-27		
	Jan -Sep 2011	Jan -Sep 2012	Growth Rate %	Jan -Sep 2011	Jan -Sep 2012	Growth Rate %
Total Exports	23038	21958	-5	7630	6485	-15
Total Imports	43486	51690	19	13072.8	15441.4	18
%(Exports/Imports)	53%	42%		58%	42%	
Exports of Agriculture Products without Cotton	2273	1936	-15	525	449	-15
Imports of Agriculture Products without Cotton	5473	5910	8	627	612	-2
%(Exports/Imports)	42%	33%		84%	73%	

Source: Compiled from CAPMAS, Central Agency for Public Mobilization and Statistics (2013), Nasr City, Cairo, Egypt

Table 4 Egyptian Exports to the EU Markets (Value in Million US$)

Year	2007		2008		2009		2010		2011	
	Exports to the EU-27 Markets	% of total Egyptian Exports	Exports to the EU-27 Markets	% of total Egyptian Exports	Exports to the EU-27 Markets	% of total Egyptian Exports	Exports to the EU-27 Markets	% of total Egyptian Exports	Exports to the EU-27 Markets	% of total Egyptian Exports
Total Exports	9146	57%	10704.2	41%	7946	34%	9404	34%	12363	40%
Agriculture Exports without Cotton	619	59%	579	31%	679	24%	666	23%	707	26%
Food Industries	99	44%	108	20%	74	10%	169	12%	151	12%
Leather and its Products	51	60%	74	86%	70	65%	121	66%	127	84%
Cotton , Textiles , Clothes	652	85%	1022	55%	892	40%	1036	33%	1195	37%

Exports of Agricultural origin	1420	67%	1794	41%	1714.7	29%	1991.6	26%	2180	30%

Source: Compiled and Calculated from CAPMAS, Central Agency for Public Mobilization and Statistics (2013), Nasr City, Cairo, Egypt,

Table 5 Indicators of Standard of Living in Egyptian Rural and Urban Regions

Economic Indicators	*2000*		*2005*	
	rban	*ural*	*rban*	*Rural*
Average Value/ Kg of Food Consumed	*.73*	*.43*	*.97*	*2.29*
Annual Food Prices Inflation rate%			*.10%*	*9.40 %*
Annual Per Capita Expenditure (L.E.)	*,653*	*,455*	*,769*	*2,328*
% Expenditure (Rural/Urban), where 2000 = 100	*00%*	*5%*	*00%*	*84%*
Annual growth rate between the two successive periods (%)			*.90%*	*7.71 %*
Real Annual Per Capita Expenditure (L.E.)	*,653*	*,455*	*,391*	*928*
% Expenditure (Rural/Urban), where 2000 = 100	*00%*	*5%*	*00%*	*39%*
Annual Economic Growth Rate between 2000 and 2005 (%)			*2%*	*-9%*

Source; Estimated from Center for Statistics and Mobilization (CAPMAS), "The Household Budget survey of Egypt", the surveys of 2000 and 2005, Cairo, Nasr City, Egypt

Table 6 Distribution Pattern of Agricultural Land Holdings before and After Land Reform Low

Land holding Category	Before 19952		After the 1st Reform low, in 1953	
	(Numbers) %	(Area) %	(Numbers) %	(Area) %
< 2 feddans	94.3%	35.4%	94.4%	46.5%
2-	97.1%	44.2%	97.0%	55.3%
4-	98.8%	54.9%	98.6%	66.0%
8-	99.6%	65.8%	99.6%	79.7%
21-	99.8%	73.0%	99.8%	86.9%
42-	99.9%	80.3%	99.9%	94.1%
84+	100%	100%	100%	100%
Gini Coefficient	61.1%		49.4%	

Source: Compiled and Calculated from: Ministry of Agriculture and Land Reclamation (2009) "Annual Agricultural Statistics Bulletin" the Economic Affairs Sector, Dokki, Cairo, Egypt

Table 7 Distribution Pattern of Agricultural Land Holdings (1969-2000)

Land holding Category	contemporary to the nationalization Acts in 1961		After the 2nd land reform low in July 1969		in 2000, After the low of land holding liberalization	
	(Numbers) %	(Area) %	(Numbers) %	(Area) %	(Numbers) %	(Area) %
< 2 feddans	94.1%	52.1%	95.8%	56.3%	90.4%	47.8%
2-	96.7%	60.6%	98.1%	66.0%	96.7%	63.4%
4-	98.8%	71.2%	99.2%	75.8%	98.9%	75.2%
8-	99.6%	84.7%	99.7%	85.0%	99.7%	85.5%
21-	99.8%	91.8%	99.9%	91.5%	99.9%	89.5%
42-	100.0%	100%	100.0%	100.0%	100.0%	100.0%
GINI Coefficient	43.3%		40.3%		44.9%	

Source: Compiled and calculated from: Ministry of Agriculture and Land Reclamation (2009) "Annual Agricultural Statistics Bulletin" the Economic Affairs Sector, Dokki, Cairo, Egypt.

Table 8 Share of Small Farm in Land Holdings Pattern of Egypt

Category of Farm Area	% No. Holdings	% Farm Area	% No. Cattle	% No. Buffalo
Less than 1-Feddan	34.72%	6.17%	16.81%	**21.54%**
1 to less than 2 feddans	26.11%	12.49%	20.07%	**26.92%**
2 to less than 3 feddans	18.87%	15.47%	19.03%	23.67%
3 to less than 4 feddans	8.35%	9.84%	10.50%	9.32%
4 to less than 5 feddans	3.64%	5.63%	5.36%	5.71%
Sub total	**91.68%**	**49.61%**	**71.77%**	**87.16%**
5 to less than 6 feddans	4.10%	8.16%	6.32%	6.12%
6 to less than 7 feddans	1.58%	4.62%	2.84%	2.63%
7 to less than 10 feddans	1.10%	4.62%	1.97%	1.61%
10 to less than 15 feddans	0.50%	2.95%	1.00%	0.85%
15 to less than 20 feddans	0.51%	4.26%	0.85%	0.69%
20 to less than 30 feddans	0.34%	4.52%	0.77%	0.59%
30 to less than 50 feddans	0.16%	3.54%	0.40%	0.28%
50 feddans and more	0.04%	17.73%	0.11%	0.07%
Total	**100%**	**100%**	100.00%	100.00%

Source: Compiled and Calculated from: Ministry of Agriculture, Egypt (2010) "Agricultural Census

Table 9 Role of Agriculture in Rural Household's Income

Source of Income		Urban	Rural	All sample
Agricultural Income	Owned Agricultural land	9.57	44.53	28.06
	Agricultural machinery	2.38	2.92	2.66
	Agricultural projects	1.74	1.13	1.41
	Farm animals	2.13	13.39	8.09
	Subtotal (1)	15.82	61.97	40.22
Other sources of Income	Residential buildings	6.38	1.62	3.86
	Financial activities	19.54	10.71	14.87
	Commercial projects	24.05	7.52	15.31
	Subtotal (2)	49.97	19.85	34.04
	Wages & Salaries (3)	34.21	18.18	25.74
Total (L.E./Household/Year)		100	100	100

Source: calculated from, Had-hood, and Mashhour, A, (1999) "Specification of Income sources of Egyptian Households" Egyptian, Journal of Applied Science, 14 (1)

Table 10 Sources of Small Farm Income

Source of Income	L.E./year	US$/year	%
Sale of crops	4478	740	18%
Income from Livestock enterprise	8296	1371	33%
Income from Poultry enterprise	236	39	1%
Working for other farmers	876	145	3%
Salaries of non-agricultural jobs	10145	1677	40%
Remittances from working abroad	1200	198	5%
Total Income	25231	4170	100%

Source: Estimated from a new sample survey of 120 farms, supervised by the author for the agricultural year 2010/2011 in four villages of Sharkia Governorate

Table 11 Income distribution and poverty in Urban and Rural of Egypt

Region	Expend/ Capita (EGP)	Income Share of the Lowest 40% of people	GINI Coefficient	Poor persons (of total population %)		Wages of poor households (%) of total employees	
				Ultra poor	Total	income	Total wages
Urban Governorates	5832	20.10%	35%	0.50%	6.90%	43.50%	4.60%
Lower Egypt	3556	26.30%	23%	2.00%	14.20%	41.00%	10.30%
Urban	4327	15.10%	27%	0.80%	7.30%	38.40%	4.90%
Rural	3275	32.30%	20%	2.50%	16.70%	41.40%	12.50%
Upper Egypt	2916	23.40%	28%	12.80%	36.90%	41.00%	27.70%

Urban	3879	12.80%	33%	6.30%	21.30%	41.60%	14.70%
Rural	2501	43.7%%	23%	15.60%	43.70%	40.90%	34.60%
Egypt	3712	22.30%	31%	6.10%	21.60%	41.30%	15.20%
Urban	4843	20.70%	34%	2.60%	11.00%	41.40%	7.20%
Rural	2924	26.00%	22%	8.50%	28.90%	41.20%	21.80%

Source: Estimated from: (CAPMAS) Center Agency for Public Mobilization and Statistics of Egypt Published in (2010), Household Income Expenditure and Consumption Sample Survey (HIECS) of 2008/2009

Table 12 Trend of Food Price Level Inflation Rate in Rural Versus Urban of Egypt

Region	Urban			Rural			Rural/Urban Parity Food Price
Comparative Indicator	Average Value/ Kg of Food Consumed	Food Prices Index%	Annual Food Prices Inflation rate%	Average Value/ Kg of Food Consumed	Food Prices Inflation Index%	Annual Food Prices Inflation rate between two successive periods %	
1975	0.14	100%	-	0.12	100%	-	86%
1990	1.55	1107%	16.0%	1.39	1158%	16.3%	90%
1995	1.74	1243%	2.3%	1.25	1042%	-2.1%	72%
2000	2.73	1950%	9.0%	1.43	1192%	2.7%	52%
2005	2.97	2121%	2.1%	2.29	1908%	9.4%	77%
2009	3.40	2431%	3.4%	3.13	2606%	7.8%	92%

Source: Estimated from: CAPMAS b: Central Agency for Public Mobility and Statistics, (2010). Household Income Expenditure and Consumption Survey (HIECS), 1974/1975, 1990/1991 1994/1995, 1999/2000, 2004/2005 and, 2008/2009

Table 13 Income Level and Income Distribution in Rural Versus Urban of Egypt

Region	Urban				Rural			
Year	Annual Per Capita Expenditure (L.E.)	Annual growth rate between each two successive periods (%)	Real Annual Per Capita Expenditure	Economic Growth Rate (%)	Annual Per Capita Expenditure	Annual growth rate between the two successive periods (%)	Real Annual Per Capita Expenditure (L.E.)	Annual Economic Growth Rate between the two successive periods (%)
1975	103	-	103		63	-	63	
1990	1058	15.5%	96	-0.50%	703	16.1%	61	-0.25%
1995	1793	10.6%	144	8.24%	1038	7.8%	100	9.92%
2000	2653	7.8%	136	-1.17%	1455	6.8%	122	4.06%
2005	2769	0.9%	131	-0.83%	2328	9.4%	122	-0.02%
2009	4843	11.2%	199	8.48%	2924	4.6%	112	-1.69%

Source: Estimated from: (Table 12), and CAPMAS: Central Agency for Public Mobility and Statistics, (2010). Household Income Expenditure and Consumption Survey (HIECS), 1974/1975, 1990/1991 1994/1995, 1999/2000, 2004/2005 and, 2008/2009

Table 14 Time series Estimates of Egyptian Farmland, and Reclaimed Area (In 000 Feddan), 1977-2010

Year	Agricultural land	Annual change in farmland	The reclaimed land area
1977	5796	-	-
1978	5838	42	5
1979	5826	12-	7
1980	5820	6-	127
1981	5876	56	81
1982	5822	54-	78
1983	5797	25-	45
1984	5853	56	52
1985	5943	90	100
1986	6019	76	120
1987	6093	74	132.8
1988	6183	90	132.8
1989	6270	87	132.8
1990	6918	648	132.8
1991	7023	105	132.8
1992	7131	111	57.63
1993	7179	45	57.63
1994	7173	6-	57.63
1995	7813	1377	57.63
1996	7563	250-	24.5
1997	7726	163	27.9
1998	7761	35	40.7
1999	7848	87	22
2000	7833	15-	12.7
2001	7946	113	28.7
2002	8148	202	18
2003	8113	35-	23.5
2004	8279	166	14.5
2005	8385	106	7.8
2006	8411	26	2.22
2007	8423	12	2.1
2008	8432	9	0.7
2009	8783	351	0
2010	8741	42-	0
Aggregate Change	2945	3682	1734.84

The numbers between brackets are negative values, for the period 1987-1991 = 664 thousand feddans
Source: (1) Central Agency for public mobilization and statistics of Egypt
(2) Public authority for agricultural development and reconstruction projects, Egypt (2012) "Horizontal Expansion Strategy In Land Reclamation Until 2017"

Table 15 Total Agricultural Land withdrawn to non-agricultural purposes in (000) Feddans, (1970-2010)

Time Interval	Total Farmland Withdrawn in successive time periods	Annual average
1970 - 1980	(1)500	50
1980 - 1990	(1)270	*27
1990 - 2000	(2 ،1)140	14**
2000 - 2010	(2)350	35***
2011	14.3	14.3
Total	1274.3	40

*The Act 116 of 1983 to prevent construction on the agricultural land
**Issuing of the military Governor (Prime Minister) Command in 1996
***Issuing of the New urban space map of the villages and rural towns for the period 2008/2012
Source: Compiled and Calculated
(1) Soliman, Ibrahim, Rizk, R. (1991) "Economic Study Of The Agricultural Land Market System In The Village, The Egyptian" Proceeding Of the First Annual Conference of Agricultural Economists, Agriculturalists Club, Dokki, Giza, Egypt
(2) Ministry of agriculture and land reclamation, Directorate General of land protection, unpublished data .

Table 16 Agricultural Land Withdrawn Illegally for Urban Purposes (1987-2011)

Time Interval	Total	Annual Average
1987-83	19325	3865
1992-88	17290	3458

1995-93	7734	2578
2005-96	11743	1174
2011	14296	14296*
Total	70388	2427

* Since the 25th of January 2011 until 15 February 2012

Source: Compiled and Calculated from:

1 Abdul Aziz, Nasreen,(2007) "The Role Of Agricultural Policy In Preserving Farmland" Egyptian Journal of agricultural economics volume 17, issue 4,

2 A Report of the Directorate General for the protection of land, site of the seventh day Newspaper, 15 February/2012

of Quantitative waste in the water resources

Table 17 The Water Charge at Aswan and The Loss Percentage from Source to Destination (1981-2008)

Period	Water Charge at Aswan (Milliard Cubic Meter)	Losses (%)			
		From Aswan Till Canals Openings	From Canals Openings till the Fields	Total Loss	The Water delivery Efficiency
1981-1986	51.69	10.2%	15.4%	25.6%	74.4%
1987-1992	55.04	9.8%	9.6%	19.5%	80.6%
1993-2008	53.99	17.4%	11.7%	29.1%	70.9%
Official statistics	53.57	NA	NA	2.2%	97.8%

Source: (1) Suhair Caesar Arsainos (1997) "The Economics Of Water Use In Egypt." Master Thesis, Department of Agricultural Economics, Faculty Of Agriculture, Minia University

(2) Ikram Ahmed (2012) "The Impact Of Agricultural Policies On Resource Efficiency, Ph.D. Thesis, Department Of Agricultural Economics, Faculty Of Agriculture, Minia University

(3) Central Agency For Public Mobilization and Statistics (2012) ".Water Resources Statistics of Egypt", Nasr City, Cairo, Egypt

Table 18 Internal Migration as % of total population in 2008

Region	internal migration	Region	Internal migration
Cairo	11.9	Bani Suif	2.2
Alexandria	6.7	Fayoum	0.6
Port Said	34	Minia	0.7
Suez	37.9	Asyut	1.2
Ismailia	31.3	Suhag	0.6
Damietta	5.4	Qena	1.4
Dakahlia	1.9	Luxor	1.3
Sharkia	4.6	Region	3.6
Kalyoubia	14.4	Red sea	28.7
Kafr El Sheikh	2.6	New valley	16.7
Gharbia	1.7	Matrouh	13.5
Menoufia	2.1	North Sinai	14.1
Behera	4.1	South Sinai	27.4
Giza	20.4	EGYPT	6.6

Source: collected from data of several issues of “The official Labor Force Survey”, carried on a quarterly basis

Year	Agricultural Area (000) Hectares	(000) Tractors	Hectare/Tractor	Agricultural Labor (Hrs/Year/Hectare)
1986	2567	52000	49	3335
1987	2547	52290	49	3400
1988	2581	53000	49	3395
1989	2571	55000	47	3445
1990	2648	57000	46	3377
1991	2643	59000	45	3415
1992	2900	61000	48	3139

1993	3246	78099	42	2821
1994	3246	78846	41	2800
1995	3283	89080	37	2837
1996	3286	88000	37	2856
1997	3300	86000	38	2877
1998	3300	86000	38	2910
1999	3483	86000	41	2789
2000	3291	86255	38	2987
2001	3338	92203	36	2979
2002	3424	93340	37	2931
2003	3409	94482	36	2983
2004	3478	96265	36	2965
2005	3523	98051	36	2965
2006	3533	100317	35	2979
2007	3538	102584	34	2994
2008	3542	105121	34	3018

Source: (1) Calculated from: FAO Statistics Division: FAOSTAT 2010, December 2010, http://faostat.fao.org/site/570/default.aspx#ancor
(2) Ministry of Economic Development, Economic Indicators (http://www.mop.gov.eg/English/english.html, December 2010

Table 19 Some Major Health Services Performance Indicators in Egypt

Region	Sub-Region	Households with access to		Ministry of health capabilities			Beds/10000 Persons		Health Units/ 10000 Persons
		Piped Water (%)	Sanitation (%)	Doctors/ 10000 Persons	Nurses/ 10000 Persons	Nurses/ Doctors (%	Total	Ministry of Health	
Urban Governorates		99.90%	96.80%	12.9	15.5	120%	29.8	9.9	3.6
Lower Egypt	Urban	99.80%	93.10%	24.6	47.7	194%	14	7.3	1
	Rural	98.10%	52.60%	2.3	10.3	448%			
Upper Egypt	Urban	100.00%	76.50%	16.8	30.6	182%	19.2	11.9	2.8
	Rural	95.00%	13.50%	1.9	6.7	353%			
Total Egypt	Urban	99.80%	89.80%	13.1	21.6	165%			
	Rural	96.70%	37.50%	2.1	8.9	424%			
	Total	98.20%	62.50%	6.9	14.3	207%	18.2	8.4	2.6

Source: Ministry of Health Cairo, Egypt, with El-Zanaty and Associates, and Macro International, (2009) “Egypt Demographic and Health Survey 2008”

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